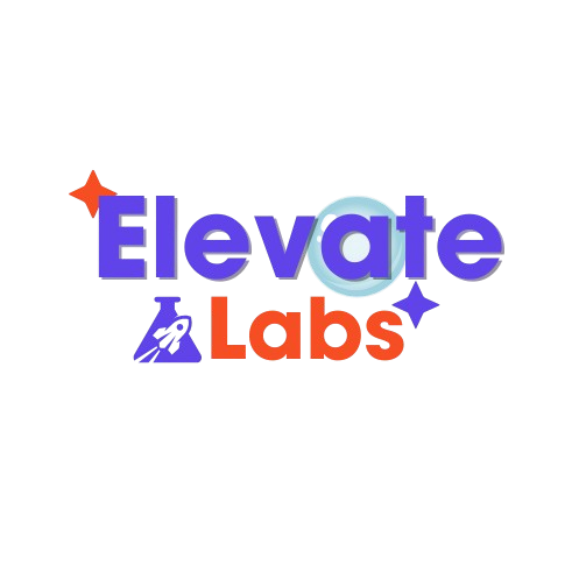
**Task 1**

**PYTHON DEVELOPER INTERNSHIP**



**Code :**

A screenshot of a computer program

AI-generated content may be incorrect.

**Output:-**

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| --- | --- |
|  |  |

**Interview Questions**

**1. What is normalization?**

Normalization is a process of organizing the columns and tables of a relational database to minimize data redundancy and improve data integrity.

**2. Explain primary vs foreign key.**

1. **Primary Key:** A column or a group of columns that uniquely identifies every row in a table. It cannot contain NULL values.
2. **Foreign Key:** A column or a group of columns in one table that refers to the primary key in another table, establishing a link between them.

**3. What are constraints?**

Constraints are rules enforced on the data columns of a table. They are used to limit the type of data that can go into a table, ensuring the accuracy and reliability of the data. Examples include NOT NULL, UNIQUE, PRIMARY KEY, and FOREIGN KEY.

**4. What is a surrogate key?**

A surrogate key is an artificial key assigned to a row, typically an integer that is automatically generated by the database system (like an auto-incrementing ID). It has no intrinsic meaning to the business data and is solely used for unique identification within the database.

**5. How do you avoid data redundancy?**

Data redundancy is primarily avoided by database normalization, which breaks down a large table into smaller, linked tables to ensure that data is stored only once.

**6. What is an ER diagram?**

An ER diagram (Entity-Relationship Diagram) is a graphical representation of the structure of a database, showing the entities (tables), their attributes (columns), and the relationships between them.

7. What are the types of relationships in DBMS?

The three main types of relationships are:

1. One-to-One (1:1): One record in a table relates to one record in another.
2. One-to-Many (1:M): One record in a table relates to many records in another (most common).
3. Many-to-Many (M:N): Many records in a table relate to many records in another (requires an intermediate "junction" table).

**8. Explain the purpose of AUTO\_INCREMENT.**

The purpose of AUTO\_INCREMENT is to automatically generate a unique, sequential integer every time a new row is inserted into a table. It is most commonly used for Primary Key columns like a surrogate key.

**9. What is the default storage engine in MySQL?**

The default storage engine in MySQL, as of version 5.5.5, is InnoDB.

**10. What is a composite key?**

A composite key (or compound key) is a combination of two or more columns in a table that, when combined, are used to uniquely identify each row in that table.